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Computable numberings of families of low sets and Turing jumps in the Ershov hierarchy

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Abstract

If ν and μ are some Δcomputable numberings of families of sets of the naturals then $P(x,y) \Leftrightarrow \nu(x)' \neq \mu(y)$ is a Σpredicate. Deriving corollaries from this result, we obtain a sufficient condition for existence of a Δcomputable numbering of the subfamily of all sets in a given family with the Turing jumps belonging to a fixed level of the Ershov hierarchy, and we deduce existence of a Σcomputable numbering of the family of all superlow sets. © 2010 Pleiades Publishing, Ltd.

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Keywords

computable numbering, constructive ordinal, Ershov hierarchy, low set, superlow set